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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,958	06/23/2003	Chun-Yi Yang	MXIC-P910252	8883

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Kenton R. Mullins
Stout, Uxa, Buyan & Mullins, LLP
Suite 300
4 Venture
Irvine, CA 92618

EXAMINER

HA, NATHAN W

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/601,958	YANG, CHUN-YI	
	Examiner	Art Unit	
	Nathan W. Ha	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-19 is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim (US 2002/0033495, newly cited.)

In regard to claim 1, in figs. 1-5, Kim, discloses a method of programming memory cells of a memory device, the method comprising:

selectively depositing a first insulating layer 112 over a first portion of the memory cells, region P/C, while not depositing the first insulating layer over a second portion of the memory cells, fig.1; and

selectively depositing a second insulating layers 150 over the second portion of the memory cells, region C, while not depositing the second insulating layers over first portion of the memory cells, to thereby program the memory device.

In regard to claim 2, wherein the first and second portions comprise at least one of electrodes, channels and gate electrodes 108 and 142, fig. 7.

In regard to claim 3, the insulating layer functions as a photoresist layer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-10 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claims 1-3 above, and further in view of Wen, US 5,812,448, previously cited.

In regard to claim 4, 6, and 12-13, Kim discloses all of the claimed limitations as mentioned above except step of removing insulating layer to form conductive layer to contact the first portions. It should be noted that conductive layer is normally used to make contacts from the gate to other devices, for example, among gates. For instance, Wen, in fig. 4D, discloses a memory device including removing the insulating layer 32 to form a conductive layer 34 to contact the gate 24' in order to create a word line. This connection is common in memory device since word lines are used to transfer data to and from gates.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to commonly form word lines that make contacts to the gates in order to deliver data to and from gates.

In regard to claims 5 and 16, the cells are transistors; and conductive later contact the first portion. See Kubo's fig. 4D.

In regard to claim 7, the masking of the predetermined ones of the plurality of memory cells is followed by unmasking the predetermined ones. See Wen's figs. 4C-4D.

In regard to claim 8, the insulating layers are disposed between memory cells. See Wen's fig. 4D.

In regard to claim 9, Kim and Wen further disclose the cells comprise transistors having source/drain regions, gates and word line therein. See Wen's fig. 4D.

In regard to claim 10, the cells should have same threshold voltage since they are connecting to the same word line.

In regard to claims 14-15, wherein the first portion is disable. See fig. 4D of Wen.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim and Wen as applied to claims 1-10 and 12-16 above, and further in view of Li et al. US 2003/0228717, previously cited, hereinafter, Li.

In regard to claim 11, Kim and Wen disclose all of the claimed limitations as mentioned above except the cells are not formed by ion-implantation. It should be noted that deposition is also a well known method of forming active regions deposition provides receiving an indication of a desired constituent ratio and calculating a deposition rate. For instance, Li discloses an analogous device using deposition to form a nonvolatile memory cells. See col. 2, section [0018].

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to obtain well known deposition process to form a

Art Unit: 2814

memory device since it provides receiving an indication of a desired constituent ratio and calculating a deposition rate.

Allowable Subject Matter

6. Claims 17-19 are allowed.

Response to Arguments

7. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (571) 272-1707. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nathan Ha
August 23, 2004

LONG PHAM
PRIMARY EXAMINER